

Customer No.: 31561
Application No.: 10/605,254
Docket No.: 9676-US-PA

REMARKS

Present Status of the Application

Claims 1-19 remain pending in the present application of which claims 1-19 has been amended for correcting typographical errors and rearranging words for more explicitly describing the claimed invention. Furthermore, Applicants have also amended Figures 1A-1G for replacing the alphabetical letters I-I' with Arabic numerals 1-1'. Furthermore, Applicants also have amended the specification to be consistent with the drawings. It is believed that no new matter adds by way of amendments to claims, drawings, specification or otherwise to the application. For at least the following reasons, Applicants respectfully submit that claims 1-19 are in proper condition for allowance and reconsideration of this application is respectfully requested.

Customer No.: 31561
Application No.: 10/605,254
Docket No.: 9676-US-PA

Discussion of objections to Drawings

1. The Office Action objected to drawings under 37 CFR 1.84(h)(3) because Figs. 1A-1G include sectional views I-I', which should be designated by Arabic numerals. Furthermore, the Examiner requested to amend the specification as well.

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly amended Figures 1A-1G of the drawings as shown in red ink in the separate accompanying sheets replacing the alphabetical letters I-I' with Arabic numerals, 1-1'. Applicants respectfully submit that upon acceptance and approval of the proposed amended Figures 1A-1G, and allowance of this application, a set of formal drawings would be submitted. Reconsideration is respectfully requested.

2. The Office Action objected to drawings under 37 CFR 1.83(a) because drawings fail to show the steps of "patterning the strip structure to form a control gate structure" as claimed in claim 1", therefore the drawings must be amended to show these features or canceled from the claims.

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly amended claim 1. After entry of the above amendments, it is believed that the above objections can be overcome. Reconsideration is respectfully requested.

Discussion of the claim Objections

Customer No.: 31561

Application No.: 10/605,254

Docket No.: 9676-US-PA

1. The Office Action objected to claims 2 and 12 because of the following informalities. Claim 2 recites the limitation "floating gate structures" in lines 4, 5 and 7. However, the recited claim lacks proper antecedent basis. Appropriate correction is required. Claim 12 recites the limitation "floating gates" in line 4. However, the recited claim lacks proper antecedent basis. Appropriate correction is required.

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly amended claims 2 and 12. After entry of the above amendments to claims 2 and 12, it is believed that the above objections can be overcome. Reconsideration is respectfully requested.

2. The Office Action objected to claim 11 under 37 CFR 1.75(c) for being of improper dependent for failing to further limit the subject matter of a previous claim.

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly amended claim 11. After entry of the above amendments to claim 11, it is believed that the above objections can be overcome. Reconsideration is respectfully requested.

3. The Office Action objected to claim 18 under 37 CFR 1.75(c) for being of improper dependent for failing to further limit the subject matter of a previous claim.

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly amended claim 18. After entry of the above

Customer No.: 31561
Application No.: 10/605,254
Docket No.: 9676-US-PA

amendments to claim 18, it is believed that the above objections can be overcome.
Reconsideration is respectfully requested.

Discussion of the claim rejection under 35 USC 112

The Office Action rejected claims 1-10 under 35 U.S.C. 112, second paragraph, as being indefinite to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly amended claims 1-10. After entry of the above amendments to claims 1-10, it is believed that the above objections can be overcome. Reconsideration is respectfully requested.

Discussion of the claim rejection under 35 USC 102

The Office Action rejected claims 1-4, 6-9, 11-14 and 16-19 under 35 USC 102(b) as being anticipated by Huang et al. (US-6,413,818, hereinafter Huang).

Applicants respectfully disagree and traverse the above rejections as set forth below. Independent claim 1, as amended, is allowable for at least the reason that Huang fails to teach or disclose each and every features of claim 1. More specifically, Huang substantially fails to teach or disclose a method of fabricating a flash memory comprising at least a step of "forming an insulation layer between the strips such that a top surface of the insulation layer is between a lower surface and a top surface of the

Customer No.: 31561
Application No.: 10/605,254
Docket No.: 9676-US-PA

patterned conductive layer such that a part of a sidewall of the patterned conductive layer is exposed; and forming a gate dielectric layer over the top and exposed sidewall of the patterned conductive layer" as required by the amended claim 1. The advantage of the above process steps is that it provides a simple process of increasing the overlap area between the patterned conductive layer which serves as a floating gate and the gate dielectric layer to thereby increase the coupling ratio between the floating gate and the control gate which will be subsequently formed over the gate dielectric layer.

Instead, Huang, in Figs. 3A-3I, substantially teaches a process of fabricating a floating gate cell comprising the steps of sequentially forming a tunneling oxide layer (303), a first polysilicon layer (304) and a mask layer (306) over a substrate (300). Next, Huang substantially teaches (in Fig. 3B) a step of patterning the mask layer (306), the first polysilicon layer (304) and the tunneling oxide layer (303). Thereafter, Huang substantially teaches (in Fig. 3C) a step of forming an insulation layer (326) between the strips and subsequently, as shown in Fig. 3D, the patterned mask layer (306) is removed and subsequently, a part of the insulation layer (326) is removed (in Fig. 3G), wherein a top surface of the remaining insulation layer (328) is located above the top surface of the patterned polysilicon (conductive) layer (304). In other words, Huang substantially fails to teach or disclose at least a step of forming an insulation layer between the strips such that a top surface of the insulation layer is between a lower surface and a top surface of the patterned conductive layer such that a part of a sidewall of the patterned conductive layer is exposed as required by the amended claim 1, instead Huang substantially teaches a step of removing a part of the insulation layer

Customer No.: 31561
Application No.: 10/605,254
Docket No.: 9676-US-PA

(326) (in Fig. 3G), wherein a top surface of the remaining insulation layer (328) is located above the top surface of the patterned polysilicon (conductive) layer (304). Accordingly, Applicants respectfully submit that Huang cannot possibly anticipate the claimed invention in this regard.

Furthermore, Applicants respectfully submit that Huang also fails to teach or disclose at least a step of forming an insulation layer between the floating gates [after forming the floating gates], as required by the proposed amended independent claim 11. Instead, Huang substantially teaches the step of forming the insulation layer (326) (in Fig. 3C) before the completion of the fabrication of the floating gates (220) (please see col. 7, lines 54-56), where it is described that the height of the oxide structures 326 will determine the height of the subsequently formed second polysilicon layer, and as such the height of the floating gate as a whole, implying that the insulation layer (326) is indeed formed before the completion of the fabrication of the floating gate. Accordingly, Applicants respectfully submit that Huang cannot possibly anticipate the proposed amended independent claim 11, and therefore claim 11 should be allowed.

Customer No.: 31561
Application No.: 10/605,254
Docket No.: 9676-US-PA

Thus, Huang fails to teach each and every feature of the proposed amended independent claims 1 and 11.

Claims 2-4 and 6-9, and 12-14 and 16-19, which depend from Claims 1 and 11, directly or indirectly, are also patentable over Huang, at least because of their dependency from an allowable base claim.

For at least the foregoing reasons, Applicants respectfully submit that claims 1-4, 6-9, 11-14 and 16-19 patently define over Huang, and therefore should be allowed. Reconsideration and withdrawal of the above rejections is respectfully requested.

Discussion of the claim rejection under 35 USC 103

1. *The Office Action rejected claims 5 and 15 under 35 USC 103(a) as being unpatentable over Huang in view of Prall et al. (US-5,387,534, hereinafter Prall).*

Applicants respectfully disagree and would like to point out that even though the Examiner relied upon Prall to disclose TEOS and ozone, still Prall cannot cure the specific deficiencies of Huang. Accordingly, claims 5 and 15 also patently define over combination of Huang and Prall for at least the same reasons discussed above. Reconsideration is respectfully requested.

2. *The Office Action rejected claim 10 under 35 USC 103(a) as being unpatentable over Huang in view of Hsue et al. (US-5,516,713, hereinafter Hsue).*

Applicants respectfully disagree and would like to point out that even though the Examiner relied upon Hsue to disclose phosphoric acid, still Prall cannot cure the specific

Customer No.: 31561**Application No.: 10/605,254****Docket No.: 9676-US-PA**

deficiencies of Huang. Accordingly, claim 10 also patently define over combination of Huang and Hsue for at least the same reasons discussed above. Reconsideration is respectfully requested.

Customer No.: 31561
Application No.: 10/605,254
Docket No.: 9676-US-PA

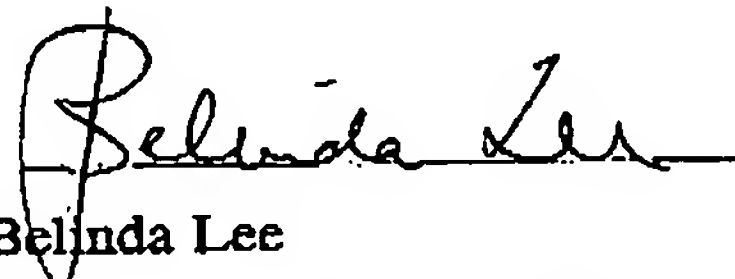
CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 1-19 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted

Date :

Dec. 21, 2004



Belinda Lee

Registration No.: 46,863

Jianq Chyun Intellectual Property Office
7th Floor-1, No. 100
Roosevelt Road, Section 2
Taipei, 100
Taiwan
Tel: 011-886-2-2369-2800
Fax: 011-886-2-2369-7233
Email: belinda@jciigroup.com.tw
Usa@jciigroup.com.tw